BINDURA UNIVERSITY OF SCIENCE EDUCATION

BIOLOGICAL SCIENCES DEPARTMENT

BScBZH

MOLECULAR BIOLOGY (BZH231) (BTEC231)

EXAMINATION

2 HOURS (100 MARKS)

MAR 2024

INSTRUCTIONS TO CANDIDATES

Answer FOUR questions. You MUST answer QUESTION 1 (Section A) and any THREE questions from section B. Each question carries 25 MARKS. Where a question contains sub-divisions, the mark value of each sub-division is given in brackets. Illustrate your answer where appropriate with large clearly labelled diagrams. You should not spend more than thirty minutes on each question.

Section A Compulsory

1. Describe any ONE method for DNA sequencing.

Section B

2. a) Using diagrams, illustrate the different forms of DNA. (15 marks)
   b) Describe the concept of Central Dogma in molecular biology. (10 marks)

3. Write short notes on any FIVE of the following

   a) tRNA. (5 marks)
   b) Activation of amino acids. (5 marks)
   c) Regulator gene. (5 marks)
   d) Chain termination. (5 marks)
   e) Translation (5 marks)
   f) Transformation. (5 marks)

4. Discuss the regulation of gene expression in prokaryotes.

5. Describe the transcription process in eukaryotes.

6. Compare and contrast DNA replication in eukaryotes and prokaryotes.

END OF EXAMINATION QUESTION PAPER